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10/698,292	10/31/2003	Jefferson B. Burch	10031298-1	1408

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EXAMINER	
EWART, JAMES D	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,292	BURCH ET AL.	
	Examiner	Art Unit	
	James D. Ewart	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-13,17-21,23-28,30-36,40-42 and 44-46* is/are rejected.

7)☒ Claim(s) *4,14-16,22,29,37-39 and 43* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed 19 June 2006 have been fully considered, but are not persuasive. Applicant teaches collecting performance data of a communication system and rather than sending all the raw data to a central station, calculating statistical values at the mobile device and sending the statistics to the central station. The Examiner has used the Thornton reference to show the prior art teaching of collecting performance data of a communication system and sending the raw data to a central station. The Examiner has combined the Thornton reference with Laguer-Diaz who teaches collecting and transmitting internal diagnostics data of a vehicle and rather than sending all the raw data to a central station, calculating statistical values at the mobile device and sending the statistics to the central station. Applicant argues that Thornton explicitly criticizes, discredits, and discourages the very element from Laguer-Diaz that the Examiner has combined with Thornton. Applicant concludes this from paragraph 2 of Thornton, which states, "The traditional approach to identifying locations with poor network RF coverage is to perform ***drive testing to determine wireless network coverage issues***. Drive testing involves engineers driving in automobiles in wireless coverage areas with radio equipment used for testing RF coverage. This process is expensive, slow and very labor-intensive." The Examiner finds this not to be a relevant issue since Thornton is referring to collecting and transmitting performance data of a wireless communication system and Laguer-Diaz is related to collecting and transmitting internal diagnostics data of a vehicle. Laguer-Diaz does not teach ***drive testing to determine wireless network coverage issues***. Again, the Examiner is only using the Laguer-Diaz reference to show a teaching of sending statistical data rather than sending all the raw data. Both Thornton and Laguer-Diaz teach collecting and

wirelessly sending performance data to a remote monitoring center and thus are in related technology. Furthermore, Laguer-Diaz provides the same reasoning for sending the statistical data as Applicant of reducing the volume of data to be transmitted see Column 8, Lines 39-42.

2. Regarding Applicant's argument that Thornton does not teach: "receiving an indicator at said wireless probe to begin taking measurements of one or more variables" and states that although Thornton teaches scheduling a time to begin taking measurements of one or more variables (0038), an indicator is not received at the mobile device. The Examiner finds this somewhat contradictory, since the scheduled event must provide an indicator to the mobile device to begin taking measurements (thus the mobile device receives an indicator). If Applicant is implying that Thornton does not teach receiving the indicator from another device, the claim does not state this and the Examiner suggests modifying the claim to include this limitation.

3. Regarding Applicant's argument of claim 25, that Laguer-Diaz doesn't teach "calculating statistical data at said wireless probe using said measured one or more variables, ***responsive to receiving a transition event notification***", the Examiner disagrees. In Column 8, Lines 39-42 Laguer-Diaz teaches "because of the significant volume of the daily download data, in one embodiment, statistical measures are calculated and transmitted to the remote site 18, in lieu of transmitting raw data". Statistics are calculated after a sample has been collected and are representative of the sample. The process of calculating statistics includes an inherent notification that the sample has been collected, which the Examiner equates with transition event notification.

4. The amendment to the title has overcome the Examiner's objection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3,5-7,9,10, 12, 17-20, 23-28,30,31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al. (U.S. Patent Publication No. 2004/0176040) and further in view of Laguer-Diaz et al. (U.S. Patent No. 6,580,983).

Referring to claims 1 and 25, Thornton et al. teaches a method for measuring performance in a wireless probe measurement system comprising (0006, Figure 4; 416 and 0031): receiving an indicator at said wireless probe to begin taking measurements of one or more variables (0037 & 0038); measuring said one or more variables (0031); but does not teach managing bandwidth by calculating a set of statistical values, at the measurement device, using said measured one or more variables and transmitting said set of statistical values to a central station. Laguer-Diaz et al. teaches managing bandwidth by calculating a set of statistical values, at the measurement device, using said measured one or more variables and transmitting said set of statistical values to a central station (Column 8, Lines 39-42). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to

combine the art of Thornton et al. with the teaching of Laguer-Diaz et al. of managing bandwidth by calculating a set of statistical values, at the measurement device, using said measured one or more variables and transmitting said set of statistical values to a central station to reduce the amount of data transmitted to a monitoring and diagnostic service center (Column 5, Lines 19-25 & Column 8, Lines 39-42).

Referring to claims 2 and 26, Thornton et al further teaches marking each measurement of said one or more variables with one or more of: a time of said measurement; and a location of said measurement (0006 and 0031). The signal strength is a measurement.

Referring to claims 3 and 28, Thornton et al teaches the limitations of claims 3 and 28, but does not teach comparing said one or more variables to preset alarm conditions; setting an alarm state in response to finding an exceeded one of said preset alarm conditions. Laguer-Diaz et al. teaches comparing said one or more variables to preset alarm conditions (Column 2, Lines 55-56 and Column 8, Lines 18-24); setting an alarm state in response to finding an exceeded one of said preset alarm conditions (Column 2, Lines 55-56). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al with the teaching of Laguer-Diaz et al. of comparing said one or more variables to preset alarm conditions; setting an alarm state in response to finding an exceeded one of said preset alarm conditions to provide immediate analysis and possible resolution (Column 3, Lines 1-3).

Referring to claims 5 and 30, Laguer-Diaz et al further teaches checking for said high priority items prior to transmitting said set of statistical values; transmitting said high priority items before said transmitting of said set of statistical values; and transmitting low priority items when there are no high priority items and when there are none of said set of statistical values to transmit (Column 7, Line 57 to Column 8, Line 42).

Referring to claims 6 and 27, Thornton et al further teaches wherein said indicator comprises one or more of: passage of a predetermined time (0042); passage of a predetermined distance by said wireless probe; and a combination of said passage of said predetermined time and distance.

Referring to claims 7 and 31, Laguer-Diaz et al. further teaches calculating a set of statistics using said measured one or more variables (Column 8, Lines 39-42).

Referring to claim 9, Thornton et al further teaches wherein said measured by a plurality of wireless probes; and one or more variables measured within a single location by a single one of said plurality of wireless probes (0006 and 0031).

Referring to claims 10 and 33, Thornton et al further teaches storing said measured one or more variables in a storage device locally accessible by said wireless probe (0039 & 0048).

Referring to claim 12, Thornton et al further teaches discarding said measured one or more variables after said calculating step (0031 and 0040). Only the calculations of BER that fall below a threshold are stored. The measurements are not stored and thus discarded.

Referring to claim 17, Thornton et al teaches a wireless probe for measuring desired phenomena (Figure 4) comprising: a processor (Figure 4; 420); a transducer for capturing measurements (0006 and Figure 4; 416), but does not teach code operable by said processor, for calculating statistical information on said captured measurements; and a communication interface for transmitting said statistical information to a data clearinghouse. Laguer-Diaz et al. teaches code operable by said processor (Column 5, Lines 26-32), for calculating statistical information on said captured measurements (Column 8, Lines 39-42); and a communication interface for transmitting said statistical information to a data clearinghouse (Figure 1, Column 5, Lines 19-25 and Column 8, lines 39-42). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al with the teaching of Laguer-Diaz et al. of code operable by said processor, for calculating statistical information on said captured measurements; and a communication interface for transmitting said statistical information to a data clearinghouse to reduce the amount of data transmitted to a monitoring and diagnostic service center (Column 5, Lines 19-25 & Column 8, Lines 39-42). A transducer is a device that converts energy from one form to another i.e. antenna.

Referring to claim 18, Thornton et al further teaches a clock, wherein each of said captured measurements is stamped with a time of measurement from said clock (0006 and Figure 3; 304).

Referring to claim 19, Thornton et al further teaches a locator device, wherein each of said captured measurements is stamped with a location of measurement from said locator device (0006 and Figure 3; 306).

Referring to claim 20, Laguer-Diaz et al. further teaches wherein said code calculates statistical variables using said captured measurements (Column 8, Line 39-42).

Referring to claim 23, Thornton et al further teaches a storage interface for communicating said captured measurements to a local storage device (0039 and 0048).

Referring to claim 24, Thornton et al further teaches dropping select ones of said captured measurements to reduce a size of said captured measurements prior to storing on said local storage device (0031 and 0040). Only the signal strength measurements that fall below a threshold are stored. The other measurements are not stored and thus discarded.

6. Claims 8,21and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al. and Laguer-Diaz et al and further in view of Anderson (U.S. Patent No. 6,401,054).

Referring to claims 8 and 32, Thornton et al. and Laguer-Diaz et al teach the limitations of claims 8 and 32, but do not teach herein said calculating step comprises: calculating a set of intermediate statistical values using one or more variables. Andersen teaches wherein said calculating step comprises: calculating a set of intermediate statistical values using one or more variables (Column 1, Lines 62-66). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al with the teaching of Andersen wherein said calculating step comprises: calculating a set of intermediate statistical values using one or more variables wherein the statistics calculated are intermediate statistics to reduce the amount of data sent to the central monitoring station (Column 2, Lines 4-6). Intermediate statistics is the study of statistics which occurs before advanced statistics and includes the mean, standard deviation.... Anderson discusses using the mean and standard deviation.

Referring to claim 21, Laguer-Diaz et al further teaches said code calculates statistical values using said captured measurements (Column 1, Lines 65-66), wherein said statistical values are used by said data clearinghouse to analyze said desired phenomena (Column 2, Lines 8-10). Referring to claim 21, Thornton et al. and Laguer-Diaz et al teach the limitations of claim 21 but do not teach wherein the statistics calculated are intermediate statistics. Anderson teaches wherein the statistics calculated are intermediate statistics (Column 1, Lines 62-66). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al. with the teaching of Anderson wherein the statistics calculated are intermediate statistics to reduce the amount of

data sent to the central monitoring station (Column 2, Lines 4-6) Intermediate statistics is the study of statistics which occurs before advanced statistics and includes the mean, standard deviation.... Anderson discusses using the mean and standard deviation.

7. Claims 11 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al. and Laguer-Diaz et al and further in view of Counselman, III (U.S. Patent No. 5,805,200).

Referring to claims 11 and 34, Thornton et al. and Laguer-Diaz et al teach the limitations of claims 11 and 34 including measuring one or more variables, but do not teach decimating the values to reduce the size of the values prior to said storing. Counselman, III teaches decimating the values to reduce the size of the values prior to said storing (Column 18, Lines 51-54). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al with the teaching of Counselman, III of decimating the values to reduce the size of the values prior to said storing to conserve memory space (Column 18, Line54).

8. Claims 13, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al. and Laguer-Diaz et al and further in view of Nilsen et al. (U.S. Patent No. 5,987,306).

Referring to claims 13 and 35, Thornton et al. further teaches defining an area (0024) over which said wireless probe measures for said desired phenomena wherein said area is

divided into a plurality of bins (0008), but does not teach overlaying a grid over said area. Nilsen et al. teaches overlaying a grid over said area (Figures 5B and 5C). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al with the teaching of Nilsen et al. of overlaying a grid over said area to provide a presentation of test results (Column 2, Lines 54-56).

Nilsen et al. further teaches calculating said statistical data for each of said plurality of bins (Column 1, Line 66 to Column 2, Line 2 and Figures 5B and C).

9. Claims 40, 41, 42, 44, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al. in view of Laguer-Diaz et al and further in view of Nilsen et al. (U.S. Patent No. 5,987,306).

Referring to claim 40, Thornton et al. teaches a method for analyzing desired phenomena in a defined area using a plurality of wireless probes (0006, 0031 and Figure 4), said method comprising: taking raw measurements related to said desired phenomena across said defined area (0008 and 0024); determining a location of each of said raw measurements (0006); assigning each of said raw measurements to one location (0006) but does not teach calculating statistical data at measurement device using said raw measurements; and communicating said statistical data to a central analysis center. Laguer-Diaz et al teaches calculating statistical data at said measurement device using said raw measurements; and communicating said statistical data to a

central analysis center (Column 8, Lines 39-42). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Thornton et al with the teaching of Laguer-Diaz et al of calculating statistical data at said measurement device using said raw measurements; and communicating said statistical data to a central analysis center to reduce the amount of data transmitted to a monitoring and diagnostic service center (Column 5, Lines 19-25 & Column 8, Lines 39-42). Thornton et al. and Laguer-Diaz et al teach the limitations of claim 40, but do not teach dividing said defined area into a grid having a plurality of grid sections. Nilsen et al. teaches dividing said defined area into a grid having a plurality of grid sections (Figures 5B and 5C). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al with the teaching of Nilsen et al. of dividing said defined area into a grid having a plurality of grid sections to provide a presentation of test results (Column 2, Lines 54-56). Examine equates antenna with wireless probe.

Referring to claim 41, Thornton et al. further teaches marking each of said raw measurements with a measurement time (0006); and marking each of said raw measurements with a measurement location (0006, 0031 and 0042).

Referring to claim 42, Thornton et al. further teaches wherein said taking said raw measurements is responsive to one or more of: a predetermined distance traveled by said wireless probe; a predetermined time period elapsed (0042); and a predetermined distance traveled when a predetermined period of time has also elapsed.

Referring to claim 45, Thornton et al. further teaches storing said raw measurements and said statistical data in a memory local to said plurality of wireless probes (0039 & 0048).

Referring to claim 46, Thornton et al. further teaches deleting selected ones of said raw measurements prior to said storing (0040). Only the signal strength measurements that fall below a threshold are stored. The other measurements are not stored and thus discarded.

10. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable by Thornton et al., Laguer-Diaz et al and Nilsen et al. and further in view of Anderson.

Referring to claim 44, Thornton et al., Laguer-Diaz et al and Nilsen et al. teach the limitations of claim 44, but do not teach calculating intermediate statistical values using said raw measurements. Andersen teaches calculating intermediate statistical values using said raw measurements (Column 1, Lines 62-66). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Thornton et al. and Laguer-Diaz et al with the teaching of Andersen of calculating intermediate statistical values using said raw measurements to reduce the amount of data sent to the central monitoring station (Column 2, Lines 4-6). Intermediate statistics is the study of statistics which occurs before advanced statistics and includes the mean, standard deviation.... Anderson discusses using the mean and standard deviation.

Allowable Subject Matter

11. Claim 4, 14-16, 22, 29, 37-39 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claim 4, the references sited do not teach assigning a medium priority level to said set of statistical values; assigning a low priority to said measurements; and assigning a high priority to said alarm state.

Referring to claim 14, the references sited do not teach defining an region over which said wireless probe measures said one or more variables; and dynamically generating a statistical bin around said wireless probe, wherein an area of said statistical bin is defined by a relationship between said measured one or more variables. The references sited teach point measurements whereas the applicant teaches measuring at different locations with a defined area.

Referring to claim 22, the references sited do not teach wherein said captured measurements are captured over a plurality of preset locations; wherein said code calculates separate intermediate statistical values for separate areas within one or more of said plurality of preset locations using said captured measurements; and wherein an aggregate statistical value is calculated for said one or more of said plurality of preset locations using said separate intermediate statistical values.

Referring to claim 29, the references sited do not teach assigning a medium priority level to said statistical data; assigning a low priority to said one or more variables; and assigning a high priority to said alarm message. The references sited teach point measurements whereas the applicant teaches measuring at different locations with a defined area.

Referring to claim 37, the references sited do not teach defining an area over which said wireless probe measures for said desired phenomena; and dynamically creating a statistical bin around said wireless probe, wherein an area of said statistical bin is defined by a correlation between said measured one or more variables related to said desired phenomena.

Referring to claim 43, the references sited do not teach dividing said plurality of grid sections into further segments by one of said plurality of wireless probes; compiling said statistical data by said one of said plurality of wireless probes according to said further segments; and aggregating said compiled statistical data corresponding to said further segments at said one of said plurality of wireless probes prior to said transmitting.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arpee et al. U.S. Patent No. 6,711,404 discloses apparatus and method for geostatistical analysis for wireless signal propogation.

Valins et al. U.S. Patent Publication No. 2003/0064720 discloses system and method for generating communication network performance alarms.

This is an RCE of applicant's earlier Application No. 10/698,292. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization

where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.

Ewart
July 12, 2006

WILLIAM TROST
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